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(21) International Application Number: PCT/US00/18188

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(25) Filing Language: English

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(30) Priority Data:

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PCT/US99/15131	2 July 1999 (02.07.1999)	US
PCT/US00/15890	9 June 2000 (09.06.2000)	US
PCT/US00/15891	9 June 2000 (09.06.2000)	US

(71) Applicant (*for all designated States except US*): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): YE, Hai [CN/CN]; 1# Binhe Rd., Guangzhou Economy and Technology District, Guangzhou 510730 (CN). BUCKLEY, Christopher, David [GB/CN]; Apt. 346, White Swan Hotel, Guangzhou 510133 (CN). YUE, Jiang [US/US]; 7585 Lakota Springs Drive, West Chester, OH 45069 (US).

Published:

— With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DELIVERY SYSTEM FOR ORAL CARE COMPOSITIONS COMPRISING ORGANOSILOXANE REINS USING A REMOVABLE BACKING STRIP

(57) Abstract: Disclosed is a delivery system for delivering an oral care substance to the oral cavity, the delivery system comprising: (a) a removable backing strip having sufficient flexibility so as to be readily conformable to an oral surface when the delivery system is placed thereagainst; and (b) an oral care composition applied to the strip of material such that when the delivery system is placed on the oral surface the oral care composition contacts the oral surface, the oral care composition comprising: (i) an organosiloxane resin; (ii) a rheology modifier; and (iii) at least one oral care substance; wherein the oral care composition remains on the oral surface after the backing strip is removed. Further disclosed are such delivery systems in which the oral care composition further comprises fluid diorganopolysiloxane-based polymers; such compositions may further comprise carriers for solubilizing the organosiloxane resin and the fluid diorganopolysiloxane-based polymers. Still further disclosed are methods of using the delivery systems.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/18188

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K9/00 A61K7/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 98 55079 A (PROCTER & GAMBLE) 10 December 1998 (1998-12-10) claims; figures	1-28
Y	US 5 427 770 A (VICCARO JOHN P ET AL) 27 June 1995 (1995-06-27) claims 1,9,12	1-28
A	US 4 900 552 A (SANVORDEKER DILIP R ET AL) 13 February 1990 (1990-02-13) claim 1	1
A	US 5 866 630 A (KEDROWSKI BRANT L ET AL) 2 February 1999 (1999-02-02) claim 1	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"&" document member of the same patent family

Date of the actual completion of the international search

6 October 2000

Date of mailing of the international search report

17/10/2000

Name and mailing address of the ISA
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US 00/18188

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9855079 A	10-12-1998	US 5894017 A	13-04-1999
		AU 7704198 A	21-12-1998
		CN 1259044 T	05-07-2000
		EP 0996425 A	03-05-2000
		NO 995929 A	03-02-2000
		US 6096328 A	01-08-2000
US 5427770 A	27-06-1995	CA 2003969 A	28-05-1990
		DE 68904539 D	04-03-1993
		DE 68904539 T	03-06-1993
		EP 0373688 A	20-06-1990
		ES 2053962 T	01-08-1994
		JP 1848640 C	07-06-1994
		JP 2223512 A	05-09-1990
		JP 5061248 B	06-09-1993
US 4900552 A	13-02-1990	AU 630902 B	12-11-1992
		AU 4653189 A	31-05-1991
		EP 0451167 A	16-10-1991
		WO 9106270 A	16-05-1991
US 5866630 A	02-02-1999	US 5888491 A	30-03-1999
		US 5876208 A	02-03-1999
		AU 1264595 A	27-06-1995
		AU 1643599 A	29-04-1999
		BR 9408282 A	26-08-1997
		CA 2178486 A	15-06-1995
		CN 1142762 A	12-02-1997
		EP 0732911 A	25-09-1996
		JP 9506104 T	17-06-1997
		WO 9515740 A	15-06-1995
		ZA 9409668 A	05-06-1996

PATENT COOPERATION TREATY

PCT



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REC'D 01 AUG 2001

WIPO

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AA484F/JH		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US00/18188	International filing date (day/month/year) 30/06/2000	Priority date (day/month/year) 02/07/1999
International Patent Classification (IPC) or national classification and IPC A61K9/00		
Applicant THE PROCTER & GAMBLE COMPANY		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the reportII <input type="checkbox"/> PriorityIII <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input type="checkbox"/> Certain defects in the international applicationVIII <input checked="" type="checkbox"/> Certain observations on the international application		
Date of submission of the demand 30/08/2000		Date of completion of this report 30.07.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Ortega Plaza, M.D. Telephone No. +49 89 2399 8284 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/18188

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-29 as originally filed

Claims, No.:

1-28 as originally filed

Drawings, sheets:

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/18188

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application:

☒ claims Nos. 25-28.

because:

☒ the said international application, or the said claims Nos. 25-28 (industrial application) relate to the following subject matter which does not require an international preliminary examination (*specify*):
see separate sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search-report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims 1-28

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/18188

	No:	Claims	
Inventive step (IS)	Yes:	Claims	3
	No:	Claims	1-2, 4-28
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/18188

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. Claims 25-28 relate to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT, since it encompasses the therapeutical method of treatment (cf. also page 1 of the description). Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT).

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents have been considered for the establishment of the preliminary examination report:

D1 = WO 98 55079 A
D2 = US 5 427 770 A
D3 = US 4 900 552 A
D4 = US 5 866 630 A
D5 = US 5 401 528 A
D6 = US 5 330 747 A
2. The delivery system claimed in claim 1 is novel over the cited prior art in view of the combination of a) and b) simultaneously in the same system together with the fact that b) comprises a organosiloxane resin. An analogous analysis applies to the delivery system claimed in claim 9 and to the method claims 25 and 27.
3. The feature "wherein the oral care composition remains one on the oral surface after the backing strip is removed" cannot serve for establishing an inventive step since it is not a technical feature of the delivery system but the result to be achieved. Indeed, the problem to be solved by the claimed system and its proposed solution are then identical. The Applicant has not specified in the main claim clear clear technical features of the system which are responsible for

achieving the intended result. Hence, the proposed solution cannot be considered to be inventive, since the technical problem has then to be defined in the light of the cited prior art more broadly.

The problem to be solved lies upon the provision of a delivery system for delivering an oral care substance to the oral cavity. The solution proposed by claim 1 relates to an obvious solution in the light of D1 (discloses the backing strip (a)).

The subject-matter of claim 3 can be considered to involve an inventive step since there is no indication in the cited prior art for combining the teachings of D1 with that of D5, D6 for choosing the nature of the composition (b).

4. For the assessment of the present claims 25-28 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

Re Item VIII

Certain observations on the international application

1. The expression "wherein the oral care composition remains one on the oral surface after the backing strip is removed" which has been employed in claims 1, 9, 25, 27 relates to a "result-to-be-achieved". This expression sets unclear limits to the scope claimed, since it does not relate to clear technical features (Article 6 PCT).
2. The methods claimed in claims 25 and 27 lack clarity, since the invention is defined by means of the results-to-be-achieved instead of by the essential technical features of the invention.

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing: 11 January 2001 (11.01.01)	
International application No.: PCT/US00/18188	Applicant's or agent's file reference: AA484F/JH
International filing date: 30 June 2000 (30.06.00)	Priority date: 02 July 1999 (02.07.99)
Applicant: YE, Hai et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:
31 August 2000 (31.08.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer:</p> <p>J. Zahra</p> <p>Telephone No.: (41-22) 338.83.38</p>
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PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference AA484F/JH	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 18188	International filing date (day/month/year) 30/06/2000	(Earliest) Priority Date (day/month/year) 02/07/1999
Applicant THE PROCTER & GAMBLE COMPANY		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/18188

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K9/00 A61K7/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y ✓	WO 98 55079 A (PROCTER & GAMBLE) 10 December 1998 (1998-12-10) claims; figures	1-28
Y ✓	US 5 427 770 A (VICCARO JOHN P ET AL) 27 June 1995 (1995-06-27) claims 1,9,12	1-28
A ✓	US 4 900 552 A (SANVORDEKER DILIP R ET AL) 13 February 1990 (1990-02-13) claim 1	1
A ✓	US 5 866 630 A (KEDROWSKI BRANT L ET AL) 2 February 1999 (1999-02-02) claim 1	1

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

6 October 2000

Date of mailing of the international search report

17/10/2000

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Beyss, E

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/18188

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9855079 A	10-12-1998	US 5894017 A AU 7704198 A CN 1259044 T EP 0996425 A NO 995929 A US 6096328 A	13-04-1999 21-12-1998 05-07-2000 03-05-2000 03-02-2000 01-08-2000
US 5427770 A	27-06-1995	CA 2003969 A DE 68904539 D DE 68904539 T EP 0373688 A ES 2053962 T JP 1848640 C JP 2223512 A JP 5061248 B	28-05-1990 04-03-1993 03-06-1993 20-06-1990 01-08-1994 07-06-1994 05-09-1990 06-09-1993
US 4900552 A	13-02-1990	AU 630902 B AU 4653189 A EP 0451167 A WO 9106270 A	12-11-1992 31-05-1991 16-10-1991 16-05-1991
US 5866630 A	02-02-1999	US 5888491 A US 5876208 A AU 1264595 A AU 1643599 A BR 9408282 A CA 2178486 A CN 1142762 A EP 0732911 A JP 9506104 T WO 9515740 A ZA 9409668 A	30-03-1999 02-03-1999 27-06-1995 29-04-1999 26-08-1997 15-06-1995 12-02-1997 25-09-1996 17-06-1997 15-06-1995 05-06-1996